
NAVY PUBLIC WORKS CENTER
NORFOLK, VIRGINIA
UTILITIES DEPARTMENT

STANDARD OPERATING PROCEDURE / JOB HAZARD ANALYSIS

TITLE

REPAIR 11.5/4.16 KV AIR CIRCUIT BREAKER

PROCEDURE NUMBER

WC 624 HVE 091

SIGNED:_____

(DATE)

APPROVED:_____

(DATE)

SAFETY PROFESSIONAL:_____

(DATE)

MANAGEMENT OFFICIAL:_____

(DATE)

REVISION A

DISTRIBUTION

CODE	REV/DATE	REV/DATE	REV/DATE	REV/DATE	REV/DATE	REV/DATE	REV/DATE
601.C3							
620							
622							
610.E1							
622.3							

REVISIONS

REV	DESCRIPTION	SIGNATURE	DATE
A	Initial Issue.		

REPAIR 11.5/4.16 KV AIR CIRCUIT BREAKER

Purpose:
Procedure to repair an 11.5/4.16 kv, drawout, air, circuit breaker.

Potential Energy Sources:
1. Primary cables
2. Primary bus

Tools and PPE:
Tools: Hand tools. PPE: Nomex coveralls, insulating rubber gloves, hard hat, safety shoes, work gloves, safety glasses, and back brace if required by back injury prevention and control program. The class of rubber gloves and sleeves will depend on the exposure voltage as per the following: Class 0 - up to 1,000 volts, Class 1 - up to 7,500 volts, Class 2 - up to 17,000 volts, Class 3 - up to 26,500 volts, Class 4 - up to 36,000 volts

References:
1. PWC Occupational Safety and Health Program Manual, PWCNORVAINST 5100.33E
2. Occupational Safety and Health Standards for General Industry (29 CFR PART 1910): Subpart I, Personnel Protective Equipment; Subpart R, Electrical Power Generation / Transmission / Distribution; Subpart S, Electrical
3. NFPA 70 E approach distances to exposed, energized, electrical conductors and circuit parts.
4. SOP WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout)
5. SOP WC 622 HVE 007, Switchout And Switchback Energized Circuit
6. Individual Breaker Manufacture's Instruction Book

Procedures:
1. WC 622 will deenergize the air circuit breaker and rack the breaker off it's stabs. WC 622 will follow SOPs

WC 622 HVE 007, Switchout And Switchback Energized Circuit
WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout)

2. The required PPE for the repair work will be work gloves, safety shoes, safety glasses.

3. Remove the breaker from the cubicle.
   a) Roll breaker cart in place and secure to the cabinet.
   b) Roll breaker onto the cart and lock down.
   c) Release the cart lock and roll breaker away from the cubicle.
   d) Close the cubicle door and place a lock on the door to prevent entry into cube while breaker is away. There is no need to place a tag on the cubicle door.

4. Take the barrier boards and arc chutes off.

5. Problem with operating mechanism.
    a) If the problem is not known then inspect and troubleshoot the mechanism to determine what the trouble is.
    b) Repair the problem. If parts are required, record part information in order to purchase the part. Make the necessary repairs once the replacement part(s) arrive.

6. Problem with contacts, stabs, or insulating parts.
    a) If the problem is not known then inspect and troubleshoot the mechanism to determine what the trouble is.
    b) Repair the problem. If parts are required, record part information in order to purchase the part. Make the necessary repairs once the replacement part(s) arrive.
    c) If an insulating part has been repaired or replaced, Meggar phase to phase and each phase to ground. Wear Insulating rubber gloves, hard hat, safety shoes, safety glasses, and Nomex coveralls while performing electrical tests.

7. Put the barrier boards and arc chutes back on.

8. Place breaker back in cubicle.
    a) Remove the lock placed on the door to prevent entry into cube while breaker was away.
    b) Roll breaker cart in place and secure to the cabinet.
    b) Unlock the breaker and roll it into the cube.
    c) Release the cart lock and roll it away from the cubicle.

9. WC 622 will rack the breaker back into the connected position an then will energize the breaker per SOPs

WC 622 HVE 007, Switchout And Switchback Energized Circuit

WC 622 HVE 013, Hazardous Energy Control(Lockout, Tagout)

END